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A New Push to Mix Oil and Water

By [JAD MOUAWAD](#)

DEEPWATER MILLENNIUM, Gulf of Mexico, Oct. 8 - About 150 miles southeast of New Orleans, an oil drilling ship the size of two football fields with a wide hole in its hull and a 200-foot derrick on its deck is back in operation.

Thanks to its ability to perform in waters as deep as 10,000 feet, the Deepwater Millennium is considered the Cadillac of oil and gas exploration, allowing companies to find energy resources in remote or deep locations that were, until recently, considered out of reach.

But even as oil companies push out into the gulf's deeper waters, two devastating recent storms have raised questions about the wisdom of placing so many energy bets in this high-risk region.

The gulf's entire output - more than a quarter of domestic oil and gas supplies - was interrupted by Hurricanes Katrina and Rita, and still remains far below prehurricane levels.

Oil companies, however, are not walking away. In fact, they're planning just the opposite.

"The gulf's potential is well worth the risk," said Stuart Strife, the manager of gulf exploration for the [Anadarko Petroleum Corporation](#), which has hired Deepwater Millennium from its owner, Transocean Inc., to drill in the eastern gulf. "It's the premier exploration frontier in the United States."

But the Gulf of Mexico is not the only region the industry wants to tap. Oil companies are pushing for the right to drill in areas that have been off limits for over two decades, reigniting a debate over whether to lift a federal ban on drilling along most coastlines.

These areas - off California, from Georgia to Maine, and in the parts of the gulf close to Florida - have been closed to new exploration since 1981 after a series of environmental disasters that fostered a sharp political reaction against the oil industry.

At the heart of this dispute, which echoes the fierce quarrel over drilling in the Arctic National Wildlife Refuge in Alaska, is whether the nation's energy needs should be met mostly by increasing domestic production or by encouraging more energy efficiency to limit consumption.

"They are looking to repeat the mistakes of the past," said Annie Strickler, a spokeswoman for the Sierra Club. "We cannot drill our way out of our oil dependence. We need to look at other ways, such as running more miles out of a gallon or encouraging alternative sources of energy."

Under the most conservative estimates, the United States has total proven reserves of 21 billion barrels of oil and 192 trillion cubic feet of natural gas, enough to maintain about 10 years of current

production.

But the potential resources are much larger. According to government estimates, the Gulf of Mexico alone could hold as much as 71 billion barrels of recoverable oil and gas reserves.

Of these, about 80 percent, or 56 billion barrels, remain to be found, mostly in deep water. Another 23 billion barrels of oil and gas reserves may be lying offshore from California and the Eastern Seaboard.

Some members of Congress have been seeking to lift the federal moratorium, arguing this would make the nation's energy supplies more secure.

But the move is unlikely to succeed in the face of a coalition of environmental groups and politically powerful coastal states like Florida and California, whose Republican governors argue it would be detrimental to tourism and threaten the appeal of their coastlines.

Oil industry executives say they have learned from past disasters and argue they can now safely drill along any coast. They contend that if the nation is unwilling to make hard trade-offs between scenery and sources of energy, its prosperity will be put at risk.

"People have to realize that even if we have adequate supplies, these can be disrupted," said James T. Hackett, Anadarko's chief executive. "It's not being alarmist; it's being sober about the need for a bigger debate on energy policy."

Under the federal ban, exploration is allowed only off Texas, Louisiana, Mississippi, Alabama and Alaska. Some offshore production continues from decades-old discoveries near Southern California, but new drilling there is banned.

One proposal being circulated by Representative Richard W. Pombo of California, chairman of the House Resources Committee, would extend the current ban on offshore drilling but would permit states to opt out and allow exploration.

Rigs like Deepwater Millennium are at the forefront of this debate. They can reach far below the sea level, then punch through another 20,000 feet of sediments, sand or rocks - sometimes even horizontally - to find oil or natural gas. As it drills, global positioning technology and six powerful thrusters below the hull align the ship right above the well, even as wind and waves push and pull in different directions.

When a hurricane looms, the ship can simply cap the hole and head to quieter seas.

These new-generation rigs have allowed oil companies to push out into the gulf's deep offshore region. Oil executives recognize that's where the real growth will come from, farther and farther from shore. The dozens of megaplatforms that operate in these deepest waters have turned into America's most important energy workhorses.

Typically, the gulf's offshore region produces 1.5 million barrels of oil a day, or 27 percent of the nation's domestic production. Still, that is only 7 percent of America's oil consumption.

The region also pumps 10 billion cubic feet of natural gas a day, or 16 percent of consumption.

The Interior Department, which oversees offshore production, predicts that the gulf's output will peak at 2.25 million barrels of oil a day in 2011.

"It's an area that has become more challenging, and I don't mean that to be cute," said Kenny Lang, the vice president of deepwater production in the Gulf of Mexico at [BP](#). "But the Gulf of Mexico is squarely in the middle of a handful of regions around the world - Trinidad, Angola, Azerbaijan and the like - that we see as our prime areas."

BP, the second-largest operator here after Royal Dutch Shell, increased its production capacity over the last three years by 60 percent, to about 400,000 barrels a day. By 2007, it expects to reach 500,000 barrels, perhaps even 600,000 barrels.

Over the last five years, the company has spent \$15 billion in the region and expects to pump in another \$2 billion a year through the end of the decade. And even after its most ambitious investment to date, a megastructure called Thunder Horse, nearly sank earlier this year, BP said it remained committed to the gulf. The incident caused months of delays for Thunder Horse, which is the largest offshore platform of its kind. Production at the 250,000-barrels-a-day platform is now expected to begin sometime next year.

"This year has been remarkable, in a very negative sense," Mr. Lang said. "But our enthusiasm for the area is pretty much unwavering."

BP is not alone in this effort. Most of the major oil companies are planning to step up investments in the gulf over the coming years.

[[Chevron](#) said on Monday that it was moving ahead with a \$900 million development called, without irony, Blind Faith. The field, discovered in 2001, has potential reserves of 100 million barrels of liquids, and is expected to start producing in 2008.]

Anadarko has recently abandoned the more mature shallow gulf, selling assets worth \$1.3 billion last year, to focus on deepwater exploration. It is now heading a consortium of energy companies to develop nine natural gas fields that will eventually be tied together to a single platform, the Independence Hub; from there they will link with a 130-mile pipeline to carry gas back to shore.

The \$2 billion project, mostly hidden on the seabed, will begin supplying 850 million cubic feet of natural gas in 2007 from one of the gulf's deepest and easternmost regions.

Reaching the Deepwater Millennium is an hour-and-a-half helicopter ride for its 120 or so workers, who are aboard the ship for shifts that typically last two weeks. Most learn to take the ride in stride, but first-time visitors might feel, as the helicopter descends, as if the tiny landing pad were resting on the head of a pin. In fact, it's large enough to hold two large helicopters.

Most of the drilling on the vessel is performed by a single operator sitting in a swiveling chair inside an air-conditioned control room. At his command, mechanical arms snap into action, clamping one of hundreds of steel pipes lined up on the deck, guiding it through the drilling shaft and down the "moon pool," the opening in the middle of the ship.

"The physical part of rough-necking has come a long way," said John Redington, the manager of the ship. "Now it's done sitting in front of a computer with a joystick."

"But what everybody wants to know," he added, "is, 'How can a ship with a large hole inside of it float?' "

For the same reason, he said, that a doughnut does.

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